

इंटरनेट

मानक

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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

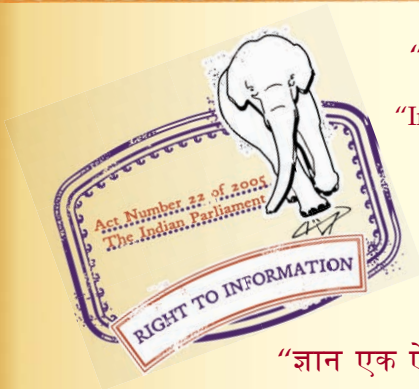
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10810-12 (1984): Methods of Test for Cables, Part 12:
Shrinkage Test [ETD 9: Power Cables]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard
METHODS OF TEST FOR CABLES
PART 12 SHRINKAGE TEST

1984
RE-APPROVED ED 1996

1. Scope — Covers determination of shrinkage characteristics of thermoplastic insulation and sheath of electric cables after exposure to specified elevated temperature.

2. Significance — The extruded polymeric materials may have residual strain which is relieved on heating causing shrinkage. Purpose of this test is to determine such shrinkages so that this may not cause any problem in terminations when cable gets heated due to energization.

Note — The test is not expected to predict the behaviour of thermoplastic in cable and core conditions but rather provides a means to indicate the level of annealing of thermoplastic and the degree of its grip, on a relative basis.

3. Terminology

3.1 Shrinkage — Decrease in original length of the test specimen after heat treatment expressed as percentage of the original length of the test specimen.

4. Apparatus

4.1 Electrically operated and thermostatically controlled heating cabinet (oven) with natural replacement of air.

4.2 Suitable scale, least count 0.5 mm.

5. Materials — No material other than the test specimen is required for performing this test.

6. Test Specimen

6.1 A sample of the cable about 220 mm in length shall be taken. In case of test on insulation, this shall be stripped of all coverings over the insulation. The insulation or sheath shall then be cut down to a length of 200 mm measured with an accuracy of 0.5 mm.

6.2 Number of Specimens — One.

7. Conditioning — No pre-conditioning is required.

8. Procedure

8.1 The specimen prepared in accordance with 6 shall be kept horizontally in the oven at a temperature and for a duration specified in relevant specification.

8.2 After this period, the specimen shall be taken out of the oven and cooled down in air to $27 \pm 2^\circ\text{C}$.

8.3 The longitudinal shrinkage of the insulation or sheath shall be measured with an accuracy of 0.5 mm. Also the specimen shall be examined visually for any cracks.

9. Tabulation of Observations

*Length of Specimen
Before Shrinkage
Test, l_1
mm*

*Length of Specimen
After Shrinkage
Test, l_2
mm*

*Visual Examination of
Surface Condition*

Adopted 14 March 1984

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IS : 10810 (Part 12) - 1984

10. Calculation

$$\text{Percentage shrinkage} = \frac{l_1 - l_2}{l_1} \times 100$$

11. Report

11.1 Shrinkage Test on Core Insulation and Outer Sheath

Cable Type _____

Batch No./Lot No. _____

Cable No./Drum No. _____

11.2 Results

Reference specification _____

Percentage shrinkage { Observed _____
Specified _____

Cracks observed Yes/No

11.3 Conclusion — Specimen meets/does not meet the requirements of specification.